

### REMARKS

Claims 1, 2, 4, 6 to 9, 31 to 34, 36, 37, 39 to 43, 45, 46, and 48 to 50 are pending in the application, of which claims 1, 31 and 40 are the independent claims. Favorable reconsideration and further examination are respectfully requested.

Claim 40 was rejected under the second paragraph of 35 U.S.C. §112 for failing to provide sufficient antecedent basis for the word "mode". As shown above, Applicants have amended claim 1 to provide a proper antecedent. Accordingly, withdrawal of the §112, second paragraph, rejection is respectfully requested.

Claims 40 and 43 were rejected under §102(e) over U.S. Patent No. 6,661,939 (Kaneko); and claims 1 to 9, 31 to 39, 41, 42, and 44 to 50 were rejected under §103 over Kaneko in view of U.S. Patent Publication No. 2003/0103542 (Cox). As shown above, Applicants have amended the claims to define the invention with greater clarity. In view of these clarifications, reconsideration and withdrawal of the art rejections are respectfully requested.

Amended independent claim 1 defines a device that includes a waveguide core having a bottom surface and a top surface that defines a beveled mirror. The beveled mirror confines, within the waveguide core, reflections of a mode transmitted along the waveguide core. The device also includes a cladding layer adjacent to the bottom surface, which has a thickness equal to or greater than an evanescent tail of the mode, a detector layer, and an attenuating layer coupled to the bottom surface of the waveguide core and positioned on top of the detector layer. The beveled mirror directs the mode from within the waveguide core to the attenuating layer. The mode travels through the attenuating layer and into the detector layer.

The applied art is not understood to disclose or to suggest the foregoing features of claim

1. In particular, the art is not understood to disclose or to suggest at least a beveled mirror that confines, within a waveguide core, reflections of a mode transmitted along the waveguide core, and that directs the mode from within the waveguide core to an attenuating layer.

More specifically, referring to Fig. 1, Kaneko describes an optical module having an optical element 5, a core 3, an underfill resin 7, and a mirror 8 formed on a substrate (see, e.g., col. 6, lines 17 et seq.). Light traveling through core 3 passes through underfill resin 7 to mirror 8. Mirror 8 then directs the light to optical element 5. This is unlike the invention of claim 1 in several ways. For example, mirror 8 is not defined by a waveguide core and, thus, does not confine reflections of light within the waveguide core. Furthermore, mirror 8 does not direct light from within the waveguide core to the attenuating layer. Rather, mirror 8 only reflects light after that light has left core 3 (see Fig. 3).

Cox, which was cited for its alleged disclosure of a cladding layer having a thickness equal to or greater than an evanescent tail of a mode, is not understood to add anything to the disclosure of Kaneko that would remedy its foregoing deficiencies against claim 1. In this regard, it was said on page 4 of the Office Action that Cox shows "a waveguide core 82 having a bottom surface and a top surface that defines an angle". Applicants do not see how waveguide core defines an angle; nor does waveguide core 82 include a beveled mirror.

Thus, even if Cox were combined with Kaneko in the manner suggested in the Office Action, the resulting hypothetical combination would still fail to disclose or to suggest at least a beveled mirror that confines, within a waveguide core, reflections of a mode transmitted along

the waveguide core, and that directs the mode from within the waveguide core to an attenuating layer. Accordingly, claim 1 is believed to be allowable.

Amended independent claims 31 and 40 each also include a beveled mirror disposed on a waveguide core, where the beveled mirror confines reflections of a mode within the waveguide core, and where the beveled mirror directs the mode from within the waveguide core to an attenuating layer. As explained above with respect to claim 1, Kaneko, whether taken alone or in combination with Cox, is not understood to disclose or to suggest these features. Accordingly, claims 31 and 40 are also believed to be in condition for allowance.

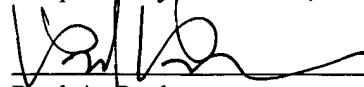
In view of the foregoing amendments and remarks, Applicants submit that the entire application is now in condition for allowance. Such action is respectfully requested at the Examiner's earliest convenience.

Applicants' attorney can be reached at the address and telephone number shown below.

No fee is believed to be due for this Amendment; however, if any fees are due, please apply such fees to Deposit Account No. 06-1050 referencing Attorney Docket 10559-682001.

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Respectfully submitted,

  
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